

铁线莲属研究随记(IV)

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Notes on the genus *Clematis* (Ranunculaceae) (IV)

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Abstract (1) *Clematis taiwaniana* Hayata, *C. grata* Wall. var. *ryukiuensis* Tamura, *C. sikki-mensis* (Hook. f. & Thoms.) Drumm. ex Burkill, *C. connata* DC. var. *bipinnata* M. Y. Fang, *C. kilungensis* W. T. Wang & M. Y. Fang etc. are reduced to synonymy. (2) New classifications for sect. *Tubulosae* Decne., *C. siamensis* Drumm. & Craib and *C. connata* DC. are proposed. (3) 3 series, 3 species and 4 varieties are described as new. (4) 6 new combinations and 3 new ranks are made.

Key words *Clematis*; Sect. *Tubulosae*; Classification; Reduction; New taxa; New combination; New rank

摘要 (1) Eichler (1958)在研究马来西亚铁线莲属植物时也深入地研究了中国、越南、泰国、缅甸及喜马拉雅山区的该属标本,认为根据我国台湾标本描述的 *Clematis taiwaniana* Hayata 可能为 *C. javana* DC. 的异名。本文作者在研究了有关的南洋群岛、中国台湾及日本琉球群岛的标本之后同意 Eichler 的归并意见;此外, *C. grata* Wall. var. *ryukiuensis* Tamura, *C. sikkimensis* (Hook. f. & Thoms.) Drumm. ex Burkill, *C. connata* DC. var. *bipinnata* M. Y. Fang, *C. kilungensis* W. T. Wang & M. Y. Fang 等拉丁学名也被归并为异名。(2)对大叶铁线莲组 sect. *Tubulosae* 做出了新的分类系统。特产日本的 *Clematis takedana* Makino 自发表后一直被认为是 *C. apiifolia* DC. 和 *C. stans* Sieb. & Zucc. (大叶铁线莲 *C. heracleifolia* DC. 的近缘种之一)的杂交种。此种为木质藤本植物,具三出复叶,腋生花序有多数两性花,呈圆锥状,而相似于 *C. apiifolia* DC. (萼片水平开展,雄蕊无毛,花药狭长圆形,药隔顶端不突出),但其萼片向斜上方开展(花萼宽钟状),花丝上部有疏柔毛,花药条形,药隔顶端有短突起而不同。笔者发现,特产我国河北西部和北京山地的羽叶铁线莲 *C. pinnata* Maxim. (叶为具5小叶的羽状复叶)具有与 *C. takedana* Makino 相同的花构造,二者在亲缘关系上极为相近,组成一个自然小群。这二种与特产北京的细花铁线莲 *C. tatari-novii* Maxim. (花两性,萼片直立,花丝上部有疏柔毛,花药狭长圆形,背面有疏柔毛,药隔顶端不突出)组成大叶铁线莲组 sect. *Tubulosae* 的原始群——羽叶铁线莲亚组 subsect. *Pinnatae*。而原来的大叶铁线莲 *C. heracleifolia* DC. 等种组成此组的进化群——大叶铁线莲亚组 subsect. *Tubulosae*, 其特征为花通常单性,萼片直立,雄蕊常有疏柔毛,茎直立,草质至木质。此外,还对 *C. siamensis* Drumm. ex Burkill 的4变种和 *C. connata* DC. 的5变种进行了分类。(3)描述了3新系、3新种和4新变种。(4)做出了6新组合和3新等级。

关键词 铁线莲属;大叶铁线莲组;分类;归并;新分类群;新组合;新等级

1 绣球藤组 Sect. *Cheiropsis* DC.

绣球藤亚组 Subset. *Montanae* Schneid.



Fig. 1 1~2. *Clematis wallichii* 1. Flowering branch; 2. Stamen. (from Wallich 4681B) 3~5. *C. malacocoma* 3. Pistillate flowering branch; 4. Sepal; 5. Staminode. (from A. Salinas 7510) (孙英宝 绘)

1.1 *Clematis wallichii* W. T. Wang, sp. nov. Fig. 1: 1~2

? *C. montana* Buch.-Ham. ex DC. ssp. *normalis* Kuntze var. *edentata* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885, non *C. edentata* Baker, 1884. TYPE: Himalaya, Wallich s. n. (holotype, B, here designated, not seen).

Habitu simillima *C. venustae* M. C. Chang, quae foliolis terminalibus majoribus lanceolatis usque ad 7 cm longis apice attenuatis, floribus majoribus 5~8 cm diametro, sepalis majoribus late ellipticis 2.5~4 cm longis 2~2.5 cm latis apice rotundatis vel rotundato-obtusis facile recedit. A

C. montana Buch.-Ham. ex DC. foliolis indivisis margine integris vel 1 ~ 2-denticulatis, sepalis oblanceolatis vel obovato-oblongis apice acutis apiculatisque valde differt.

Liana lignosa. Rami subteretes, inconspicue longitudinaliter striati, laeves, glabri. Folia ternata; foliola papyracea, terminalia anguste oblonga vel lanceolato-oblonga, (2 ~)3.4 ~ 4.2 cm longa, (0.7 ~)1.1 ~ 1.3 cm lata, apice acuminata, basi cuneata, margine indivisa, integra vel utrinque 1-denticulata, lateralalia minora, anguste ovata, lanceolata, vel elliptica, (1.5 ~)2 ~ 3 cm longa, (0.6 ~)0.9 ~ 1.2 cm lata, margine integra vel utrinque 1 ~ 2-denticulata, supra subglabra, subtus ad nervos basales sparse puberula, margine ciliolata, nervis basalibus subtus fere planis; petioli graciles, 0.5 ~ 5 cm longi, sparsissime puberuli. Flores 2 cum foliis ca. 3-jugis e gemma axillari rami veteris nascentes, ca. 4 cm diametro; pedicelli 10.6 ~ 11 cm longi, subglabri. Sepala 4, patentia, oblanceolata vel obovato-oblonga, 2.1 ~ 2.2 cm longa, 6 ~ 8 mm lata, apice acuta, apiculata, intus glabra, extus secus marginem late dense adpressequ puberula. Stamina numerosa, 6 ~ 9 mm longa, glabra, filamentis linearibus, antheris anguste oblongis vel sublinearibus 2.8 ~ 3.8 mm longis apice obtusis. Carpella ca. 15, ovariis glabris, stylis ca. 7 mm longis dense villosis.

Nepal: without precise locality, Wallich 4681B (holotype, K).

2 威灵仙组 Sect. *Clematis*

2.1 串鼻龙

Clematis javana DC. Syst. 1: 152. 1818; Prodr. 1: 7. 1824; de Vriese in Pl. Jungh. 1: 75. 1851; Turcz. in Bull. Soc. Nat. Mosc. 27: 273. 1855; Miq. Fl. Ind. Bot. 1(2): 4. 1858; Hand.-Mazz. in Acta Hort. Gotob. 13: 217. 1939; H. Eichler in Bibl. Bot. 124: 24. 1958; Backer & Bakhuizen. Fl. Java 1: 145. 1963; M. Johnson, *Clematis* 433. 1997. — *C. vitalba* L. ssp. *javana* (DC.) Kuntze in Verh. Bot. Ver. Brand. 26: 100. 1885. TYPE: Java. Lahaie s. n. (holotype, G, not seen).

C. biternata DC. Syst. 1: 149. 1818, excl. syn.; Prodr. 1: 6. 1824; Maxim. in Mém. Biol. 9: 592. 1876; Engler in Bot. Jahrb. 7: 455. 1886. — *C. vitalba* L. var. *biternata* (DC.) Boerlage, Cat. Pl. Phan. Hort. Bot. Bog. 1: 1. 1899. TYPE: Timor. Riedle s. n. (holotype, P, not seen).

C. junghuhniana de Vriese in Pl. Jungh. 1: 75. 1851. — *C. vitalba* L. γ *junghuhniana* (de Vriese) Hallier in Ann. Jard. Bot. Buitenz. 14: 271. 1897. TYPE: Java, Junghuhn s. n. (lectotype, L!)

C. gouriana Roxb. ex DC. var. *malaiiana* Miq. in Ann. Mus. Lugd.-Bot. 4: 66. 1868; Merr. & Perry in J. Arn. Arb. 24: 34. 1943 et 29: 154. 1948. TYPE: Java, Junghuhn s. n. (lectotype, L!).

C. vitalba L. ssp. *cumingii* Kuntze in Verh. Bot. Ver. Brand. 26: 100. 1885. — *C. vitalba* β *cumingii* Kuntze ex Hallier in Ann. Jard. Bot. Buitenz. 14: 271. 1897. TYPE: Philippines. Cuming 766 (lectotype, P, not seen; isoelectotypes, BM!, K!)

C. vitalba L. ssp. *brevicaudata* (DC.) Kuntze l. c., p. p. quoad pl. Timor. et Java.

C. taiwaniana Hayata in J. Coll. Sci. Univ. Tokyo 30(1): 17. 1911; Ic. Pl. Formos. 1: 23, pl. 4. 1911; Ting in Fl. Reip. Pop. Sin. 28: 190. 1980; W. T. Wang in Bull. Bot. Res. Harbin 7(2): 101. 1987; et in Acta Phytotax. Sin. 36(2): 156. 1998, syn. nov. TYPE: China. Taiwan, Kawakami & Mori 73, 1229 (syntypes, TI!).

C. grata Wall. var. *lobulata* Rehd. & Wils. in Sarg. Pl. Wils. 1: 337. 1913, p. p. excl. pl. Hubei. et Sichuan. TYPE: China. Taiwan, Oldham 2 (paratypes, GH! K! P! S!), Henry 904 (paratype, GH!), 904A (paratypes, GH! K!).

C. grata Wall. var. *ryukiuensis* Tamura in Acta Phytotax. Geobot. 15(1): 17. 1953; Walker, Fl. Okinawa & S Ryukyu Isls. 462. 1976; M. Johnson, Klematis 432. 1997. TYPE: Japan. Ryukiu, Okinawa Island, 1923-08, Koidzumi s. n. (holotype, KYO, not seen).

C. gouriana auct. non Roxb. ex DC.: Merr. Enum. Philip. 2: 141. 1923; Kaneh. & Hatus. in Bot. Mag. Tokyo 52: 354. 1938; Liu & Hsieh in Fl. Taiwan 2: 484. 1976.

C. grata auct. non Wall.: Yang & Huang in J. Taiwan Mus. 44(1): 148, pl. 4. 1991, p. p. quoad pl. Taiwan. tantum; in Taiwanica 40(3): 222. 1995; et in Fl. Taiwan, ed. 2. 2: 524, pl. 244. 1996.

Timor. Teysmann s. n. (K), Newton s. n. (K).

Indonesia. Java, Horsfield 7, Hoffmansegg 149, Backer 8603 (K).

Papua New Guinea: Morobe, Fryar 3968, Millar & Dockrill 12067, Royen 18085 (K); Ilakai, Cruttwell 958 (K); Mt. Kouta, Cruttwell 944 (K); Gailala, Hartley 13050 (K).

Philippines. Mindano Isl., Elmer 11187, 13342 (K); Luzon Isl., Elmer 5697, 17917, Merrill 4424, 8465, 11612, Ramos 76763, Edano 17783 (K); Bohol Isl., Cuming 1856 (K).

China. Taiwan: Taibei, E. H. Wilson 10264 (GH), Tanaka & Shimada 11149 (K, S, US), C. C. Hsu 3480, 4577 (S); Bankinsing, Henry 537 (K); Taoyuan, C. I. Peng 12121 (GH); Hualian, C. C. Liao 1532 (GH); Pingtung, T. C. Huang 15229 (GH).

Japan. Ryukyu Isls.: Okinawa Isl., Amano 6049 (GH), Walker *et al.* 5771 (GH); Ishigaki Isl., Furuse 840, 3485, 3607 (K); Miyako Isl., Furuse 3316 (K).

Distribution: Indonesia, Timor, Papua New Guinea, Philippines, China (Taiwan), Japan (Ryukyu Isls.).

While working on the collections of the genus *Clematis* for the flora of Malaysia, Eichler (1958) also intensively examined those collected from China, Vietnam, Thailand, Myanmar, India and the Himalayas, and regarded *C. taiwaniana* Hayata a possible synonym of *C. javana* DC. After examining the specimens cited above, representing one taxon, I confirm his reduction.

C. javana DC. is closely related to the Himalayan species *C. grata* Wall., from which it differs mainly in its lanceolate or fusiform achenes (Handel-Mazzetti, 1939). In *C. grata*, the achenes are elliptic in outline.

2.2 滇北铁线莲 变种

Clematis jialasaensis W. T. Wang var. *macrantha* W. T. Wang, var. nov.

A var. *jialasaensi* differt floribus majoribus 2.5 ~ 3.7 cm diametro, sepalis majoribus 1.4 ~ 2

cm longis 4 ~ 6 mm latis.

China. Yunnan: Tchen-fong Chan, 1907-04-15, Ducloux 2021 (holotype, P).

This new variety differs from var. *jialasaensis* in its larger flowers 2.5 ~ 3.5 cm in diameter, with sepals 1.4 ~ 2 cm long, 4 ~ 6 mm broad. In var. *jialasaensis*, which is endemic to southeastern Xizang, the flowers are smaller, 2 ~ 2.5 cm in diameter, and the sepals are 1 ~ 1.3 cm long, 2.6 ~ 3.8 mm broad.

C. jialasaensis W. T. Wang [Acta Bot. Yunnan. 8(3): 268. 1986] is similar to *C. meyeniana* Walp. very much, from which it differs mainly in its anther connective having no projection at apex. In *C. meyeniana*, the anther connective has a minute projection at apex.

2.3 光梗毛柱铁线莲 变种

Clematis meyeniana Walp. var. *insularis* Sprague in Kew Bull. 1916: 46. 1916; H. Eichler in Bibl. Bot. 124: 30. 1958; M. Johnson, Klematis 641. 1997. TYPE: China. Taiwan, Tamsuy, Oldham 1 (holotype, K!; isotype, P!). Japan. Ryukyu Isls., Wright 1 (paratype, K!). Philippines. Luzon, Merrill 4777 (paratype, K!), Loher 4 (paratype, K!).

C. lutchuensis Koidz. in Bot. Mag. Tokyo 39: 14. 1925. TYPE: Japan. Prov. Ohsumi, Isl. Ohshima, 1900-06, Faurie 3830 (holotype, KYO!).

C. meyeniana auct. non Walp.: Merr. & Rolfe in Philip. J. Sci. Bot. 3: 98. 1908; Hayata, Ic. Pl. Formos. 1: 20. 1911; Ohwi, Fl. Jap. 443. 1965; Liu & Hsieh in Fl. Taiwan 2: 486. 1976; Walker, Fl. Okinawa & S Ryukyu Isls. 462. 1976; M. C. Chang in Fl. Reip. Pop. Sin. 28: 173. 1980, p. min. p.; Yang & Huang in Taiwania 40(3): 228, fig. 9. 1995, p. p.; et in Fl. Taiwan ed. 2. 2: 532, pl. 249. 1996.

Philippines. Luzon, Santos 31947, Sinclair & Edano 9716 (K).

China. Taiwan: Keelung, Faurie 1269 (P); Taibei, E. H. Wilson 10766 (GH, K), T. S. Hsieh *et al.* s. n. (PE); Nantou, T. Y. A. Yang *et al.* 6046 (PE).

Japan. Isl. Yaku, 1921-09, Koidzumi s. n. (KYO); Isl. Amami-Oshima, 1923-04, Koidzumi s. n. (KYO).

Distribution: Philippines (Luzon), China (Taiwan), Japan (S Kyushu, Ryukyu Isls.).

Var. *insularis* differs from var. *meyeniana* with puberulous pedicels in its glabrous pedicels, and is recognizable.

3 单性铁线莲组 Sect. *Aspidanthera* Spach.

3.1 *Clematis malacocoma* W. T. Wang, sp. nov. Fig. 1: 3 ~ 5

Affinis *C. subtrilobae* G. Don e descr., quae ramis pedunculisque villosis, foliolis late ovatis, cymis 3-floris differt.

Liana subligulosa, dioica. Rami graciles, ca. 2 mm diametro, 8-sulcati, adpresse puberuli. Folia ternata; foliola subcoriacea, cordato-ovata vel anguste ovata, 2 ~ 4 cm longa, 1.3 ~ 3 cm lata, apice longe acuminata vel attenuata, basi subcordata vel cordata, margine pauce grosseque dentata, 3-lobata vel 3-lobulata, supra adpresse puberula, subtus densissime albo-puberula, nervis basalibus 5 subtus prominentibus; petioli 5.4 ~ 8.2 cm longi. Cymae staminatae et flos staminatus

ignotus. Cymae pistillatae axillares, petiolis breviores, 5 ~ 7-florae; pedunculi 1.7 ~ 2.8 cm longi, dense adpresseque puberuli; bractae petiolatae, ovatae, 0.8 ~ 1.5 cm longae, inaequaliter 2 ~ 3-lobatae vel 2 ~ 3-partitae. Flos pistillatus ca. 1.6 cm diametro; pedicelli 0.7 ~ 1.3 cm longi, dense adpresseque puberuli. Sepala 4(?), anguste oblonga, ca. 8 mm longa, 2 mm lata, apice acuta, intus puberula, extus dense adpresseque puberula, margine subvelutina. Staminodia ca. 25, 5 ~ 7 mm longa, glabra. Ovaria dense puberula; styli ca. 6 mm longi, dense villosi.

Mexico. Chila, 17° 55' Lat. N, 97° 52' Long., alt. 1940 m, 1993-09-09, A. Salinas T. 7510 (holotype, K, here designated).

3.2 *Clematis coahuilensis* Keil var. *brevisepala* W. T. Wang, var. nov.

A var. *coahuilensi* differt floribus minoribus ca. 9 mm diametro, sepalis minoribus rhombico-obovatis vel obovatis 4.5 ~ 5 mm longis 2.8 ~ 3 mm latis.

Mexico. Nuevo Leon: Rancho Resendez, Lampazos, 1937-06-24, M. T. Edwards 358 (holotype, K, here designated).

Var. *coahuilensis*, which is endemic to Coahuila, Mexico, differs from the new variety in its larger flowers ca. 2.2 cm in diameter, and in its larger sepals being oblanceolate or obovate-oblong in outline, 9 ~ 12 mm long, 3 ~ 4 mm broad.

4 大叶铁线莲组

Sect. **Tubulosae** Decne. in Nouv. Arch. Mus. Hist. Nat. Paris, sér. 2, 4: 203. 1881; Kitagawa in J. Jap. Bot. 13: 343. 1937; Tamura in Acta Phytotax. Geobot. 38: 39. 1987; et in Heipko, Nat. Pflanzenfam., Zwei. Auf., 17a(4): 372. 1995, 'Tubulosa'; M. Johnson, *Clematis* 265. 1997. Lectotype: *C. heracleifolia* DC.

Lianae lignosae, herbae perennes, suffrutices vel fruticuli erecti, saepe dioecii vel polygami. Folia ternata vel semel vel bis pinnata, foliolis ovatis. Flores hermaphroditi vel unisexuales, in cymis multifloras saepe paniculiformes vel multi in inflorescentias terminales anguste paniculiformes e cymis oppositis subsessilibus vel pedunculatis aliquot-floris compositas dispositi. Calyx late campanulatus vel tubulosus. Sepala 4, erecto-patentia vel erecta, anguste oblonga. Filamenta linearia, vulgo superne pilosa; antherae lineares vel anguste oblongae, apice saepe minute apiculatae, glabrae vel dorso pilosae. Styli persistentes elongati, plumosi.

Ca. 9 species, distributed in China, Korea and Japan.

On the basis of *C. heracleifolia* DC. and its close allies, Decaisne (1881) established the section *Tubulosae*, characterized by erect perennial herbs, usually unisexual flowers, and erect sepals, and not including both *C. pinnata* Maxim. and *C. tatarinowii* Maxim. published in 1876. Kuntze (1885) reduced *C. tatarinowii* Maxim. as a variety of *C. pinnata* Maxim. and correctly placed *C. pinnata* near and before *C. heracleifolia* DC. s. l. in his monograph. Prantl (1888) classified *C. heracleifolia* DC., *C. stans* Sieb. & Zucc. and *C. tatarinowii* Maxim. together with other about 10 species of the *C. connata* group in sect. *Viorna* subsect. *Tubulosae* of his classification of the *Clematis*, not mentioning *C. pinnata* Maxim. Kitagawa (1937) gave a revision of the section *Tubulosae*. In his revision, only *C. heracleifolia* DC. and its close allies were in-

cluded, and neither *C. pinnata* nor *C. tatarinowii* was concerned with. In the revision of the *Clematis* in China, following Prantl, Handel.-Mazzetti (1939) placed *C. heracleifolia* DC. and *C. tatarinowii* Maxim. in sect. *Viorna* subsect. *Tubulosae*, but put *C. pinnata* Maxim. separately in sect. *Flammula* subsect. *Vitalbae*. Handel-Mazzetti's treatment of the three species just mentioned above was adopted by Fang and Ting (1980) in the account of the *Clematis* for the Fl. Reip. Pop. Sin. and by Johnson (1997) in his recent monograph. While examining the specimens of *C. pinnata* Maxim., I (1998) found that this species with ascending sepals and often pilose stamen filaments is different from the species of sect. *Clematis* with spreading sepals and glabrous stamens, and regarded it as an intermediate taxon between sect. *Clematis* and sect. *Tubulosae*. In the summer of 2000, I borrowed a specimen of *C. takedana* Makino from TI. After observing the floral structure, I realized that this curious Japanese species with also ascending sepals and pilose stamen filaments is closely related to the Chinese *C. pinnata* Maxim., and at the same time believed that these two species and the third one, *C. tatarinowii* Maxim. with erect sepals and pilose stamens together form the primitive group of sect. *Tubulosae*, characterized by their hermaphrodite flowers. In the advanced group represented by *C. heracleifolia* DC. of that section, the plants are dioecious or polygamous, and the flowers are usually unisexual as Kitagawa described in 1937. The establishment of the primitive group (subsect. *Pinnatae*) implies that sect. *Tubulosae* might be derived from sect. *Clematis*, and is not related to the *C. connata* group, which possesses also erect sepals and hairy stamens, because *C. takedana* and *C. pinnata* both are rather related to certain members of sect. *Clematis*.

In the protologue of *C. takedana* Makino(1907), the author pointed out that his new species seems to come between *Clematis apiifolia* DC. (sect. *Clematis*) and *C. heracleifolia* DC. var. *stans* (Sieb. & Zucc.) Kuntze (*C. stans* Sieb. & Zucc.). Following Makino, Kitagawa(1937), Ohwi(1965), and Tamura(1982) all regarded *C. takedana* as a hybrid of *C. apiifolia* and *C. stans*.

The sect. *Tubulosae*, defined by Eichler(1958) and containing subsect. *Connatae*, is equivalent to sect. *Viorna* subsect. *Tubulosae* Prantl (1888, see above), and obviously different from De-caisne's sect. *Tubulosae*.

Subsectionum serierumque clavis diagnostica

1. Plantae vulgo scandentes; flores hermaphroditi; cymae multiflorae, paniculiformes Subsect. 1. **Pinnatae**
2. Folia ternata vel pinnata, 5-foliolata; sepala erecto-patentia; antherae lineares, glabrae, apice minute apiculatae Ser. 1. **Pinnatae**
2. Folia bipinnata; sepala erecta; antherae anguste oblongae, apice obtusae, dorso pilosae Ser. 2. **Tatarinowianae**
1. Herbae perennes, suffrutices vel fruticuli erecti, dioecii vel polygami; flores vulgo unisexuales; sepala erecta Subsect. 2. **Tubulosae**
3. Folia ternata; flores multi in cymis trichotomas vel in inflorescentias terminales anguste paniculiformes e cymis oppositis subsessilibus vel pedunculatis aliquot-floris compositas dispositi Ser. 1. **Tubulosae**

3. Folia pinnata vel ternata, raro simplicia; flores solitarii, terminales Ser. 2. **Uniflorae**

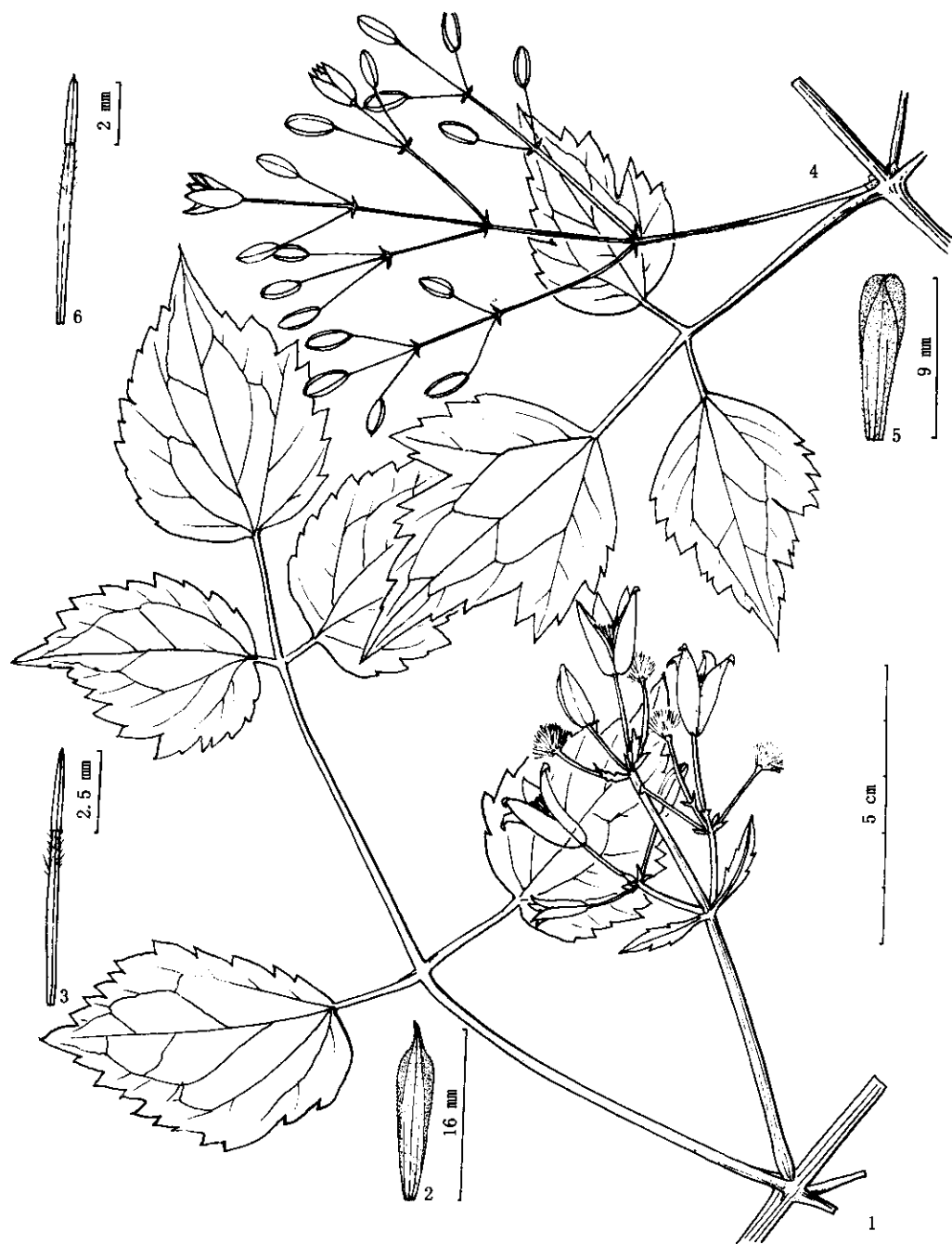


Fig. 2 1~3. *Clematis pinnata* 1. Flowering branch; 2. Sepal outside; 3. Stamen. (From S. Y. He 15037). 4~6. *C. takedana* 4. Flowering branch; 5. Sepal; 6. Stamen. (from Hisauchi & Kimura 2145) (孙英宝 绘)

Subsect. 1. **Pinnatae** (W. T. Wang) W. T. Wang, comb. nov. — Sect. *Clematis* subsect. *Pinnatae* W. T. Wang in Acta Phytotax. Sin. 36(2): 159. 1998. TYPE: *C. pinnata* Maxim.

3 species, distributed in China and Japan.

Ser. 1. **Pinnatae** W. T. Wang, ser. nov. TYPE: *C. pinnata* Maxim.

2 species, distributed in China and Japan.

4.1 Clematis takedana Makino in Bot. Mag. Tokyo 21: 87. 1907; Matsum. Ind. Pl. Japon. 2: 113, 1912; Kitagawa in J. Jap. Bot. 13(5): 359. 1937; Ohwi, Fl. Jap. 515. 1953, in Jap., et Eng. vers. 443. 1965; Tamura in Satake *et al.* Wild Fl. Japan 2: 73. 1982. TYPE: Japan. Honshu, Shinano, 1905-08-28, Takeda s. n. (holotype, not seen). Fig. 2: 4~6

Japan. Nagano Prefecture, Hisauchi & Kimura 2145 (TI).

Distribution: Japan (Honshu).

C. takedana differs from its close ally, *C. pinnata*, in its ternate leaves, and smaller, purplish sepals 9~10 mm long and 2~2.2 mm broad. In *C. pinnata*, the leaves are pinnate, 5-foliate, and the sepals are white in colour, larger, 12~19 mm long, 3~5 mm broad.

This species is not included in Johnson's recent monograph.

4.2 羽叶铁线莲 Fig. 2: 1~3

Clematis pinnata Maxim. in Bull. Acad. Sci. St-Petersb. 22: 216. 1876; Kuntze in Verh. Bot. Ver. Brand. 26: 182. 1885; Forbes & Hemsl. in J. Linn. Soc. Bot. 23: 7. 1886; Limpr. in Repert. Sp. Nov. Beih. 12: 376. 1922; Rehd. in J. Arn. Arb. 4: 188. 1923; Hand.-Mazz. in Acta Hort. Gotob. 13: 217. 1939; Ting in Fl. Reip. Pop. Sin. 28: 180. 1980; He, Fl. Beijing, rev. ed. 1: 252. 1984; J. W. Wang in Fl. Hebei. 1: 477, fig. 486. 1986; M. Johnson, Klematis 448. 1997; W. T. Wang in Acta Phytotax. Sin. 36(2): 160. 1998. TYPE: China. near Beijing, ca. 1845, Tatarinow s. n. (holotype, LE, not seen; isotype, PE!).

China. Beijing: Bretschneider s. n. (GH, K), Hemeling s. n. (K), Leichman s. n. (K), S. Y. He 15037 (PE). **Hebei:** Mt. Xiaowutaishan, Limpricht 627 (S).

Distribution: China (W Hebei, Beijing).

Ser. 2 **Tatarinowianae** W. T. Wang, ser. nov. TYPE: *C. tatarinowii* Maxim.

Monotypic, endemic to Beijing, China.

4.3 细花铁线莲

Clematis tatarinowii Maxim. in Bull. Acad. Sci. St.-Petersb. 22: 215. 1876; in Mém. Biol. 9: 590. 1876; Forbes & Hemsl. in J. Linn. Soc. Bot. 23: 7. 1886; Hand.-Mazz. in Acta Hort. Gotob. 13: 391. 1939; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 95. pl. 26. fig. 3~4. 1980; He, Fl. Beijing, rev. ed. 1: 248. 1984; M. Johnson, Klematis 276. 1997. TYPE: China. Beijing, ca. 1845, Tatarinow s. n. (holotype, LE, not seen; isotype, PE!). — *C. pinnata* Maxim. var. *tatarinowii* (Maxim.) Kuntze in Verh. Bot. Ver. Brand. 26: 182. 1885.

Distribution: China (Beijing). Only known from the type specimens.

Subsect. 2. **Tubulosae** (Decne.) W. T. Wang, st. nov. — Sect. *Tubulosae* Decne. l. c.; Kitagawa, l. c. LECTOTYPE: *C. heracleifolia* DC. — Sect. *Viorna* subsect. *Tubulosae* Prantl in Bot. Jahrb. 9: 258. 1888, p. p. quoad *C. heracleifolia* DC. et *C. stans* Sieb. & Zucc.; Schneid. Ill. Handb. Laub. 1: 281. 1906; Hand.-Mazz. in Acta Hort. Gotob. 13: 191. 1939, p. p. excl. *C. tatarinowii* Maxim.; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 93. 1980, p. p. excl. *C. tatarinowii* Maxim. — Subgen. *Tubulosa* T. Y. A. Yang in Chiu & Peng

(eds.), Proc. Cross-str. Symp. Fl. Divers. & Cons. 92. 1998; et in Syst. Geogr. Pl. 68(1~2): 281~303. 1999.

Ca. 6 species, distributed in China, Korea, and Japan.

Ser. 1. **Tubulosae** Decne. ex Rehd. & Wils. in Sarg. Pl. Wils. 1: 320. 1913; Rehd. Man. Cult. Trees & Shr., 2nd ed., 209. 1940, p. p. LECTOTYPE: *C. heracleifolia* DC.

Ca. 5 species (*C. urticifolia* Nakai ex Kitagawa, *C. heracleifolia* DC., *C. psilandra* Kitagawa, *C. speciosa* Makino, *C. stans* Sieb. & Zucc.), distributed in China, Korea, and Japan.

Ser. 2. **Uniflorae** W. T. Wang, ser. nov. TYPE: *C. tsugetorum* Ohwi. Monotypic, endemic to Taiwan, China.

5 尾叶钱线莲组 Sect. **Viorna** (Reichb.) Prantl

尾叶铁线莲亚组 Subsect. **Connatae** Koehne.

5.1 锡金铁线莲

Clematis siamensis Drumm. & Craib in Kew Bull. 1915: 420. 1915; M. Johnson, Klematis 317. 1997. TYPE: Thailand. Chiangmai, Doi Sutep, 1300 m, 1914-02-22, Kerr 3146 (holotype, K! isotype, BM!).

C. acuminata DC. var. *sikkimensis* Hook. f. & Thoms. in Hook. f. Fl. Brit. Ind. 1: 6. 1872; Hand.-Mazz. in Acta Hort. Gotob. 13: 194. 1939, p. p. excl. syn. var. *multiflora* Comber; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 14. 1961 et 80: pl. 22. 1963; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 104. 1980; Tamura in J. Phytogeogr. Taxon 28(1): 14. 1980. — *C. acuminata* DC. ssp. *sikkimensis* (Hook. f. & Thoms.) Brühl in Ann. Bot. Gard. Calc. 5(2): 75. 1896; Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 11. 1966; Rau in Sharma *et al.* Fl. Ind. 1: 54. 1993; M. Johnson, Klematis 293. 1997. — *C. sikkimensis* (Hook. f. & Thoms.) Drumm. ex Burkill in Rec. Bot. Surv. Ind. 10: 229. 1925; Hara, Fl. East. Himal. 89. 1966; et in Hara & Williams, Enum. Flow. Pl. Nepal 2: 15. 1979; W. T. Wang in Acta Phytotax. Sin. 31(3): 219. 1993, syn. nov. TYPE: Sikkim. J. D. Hooker s. n. (holotype, K!).

C. acuminata DC. ssp. *normalis* Kuntze in Verh. Bot. Ver. Brand. 26: 167. 1885. TYPE: not designated.

C. acuminata ssp. *sikkimensis* var. *hookeri* Brühl in Ann. Bot. Gard. Calc. 5(2): 75, pl. 104, fig. 4~5. 1896; M. Johnson, Klematis 294. 1997. TYPE: Sikkim. J. D. Hooker s. n., Gamble 1003A (syntypes, K!). Bhutan. Dumsong, Clarke 26418 (syntype, BM!).

C. acuminata DC. var. *sikkimensis* Hook. f. & Thoms. (1872) with ovate leaflets is different from *C. acuminata* DC. with lanceolate leaflets (see below), and was raised to species rank by Burkill in 1925. Hara (1979, l. c.; 1966) and I (1993, l. c.) recognized the new status of this taxon. However, according to Article 11 of ICBN (Greuter *et al.*, 2000) for this taxon in species rank, the name *C. siamensis* Drumm. & Craib (1915), which is identical with *C. sikkimensis*, must be used, because the publication of *C. siamensis* Drumm. & Craib antedates that of *C. sikkimensis* (Hook. f. & Thoms.) Drumm. ex Burkill for ten years.

This species consists of 4 varieties, distributed in Southwest China, northern Thailand, northern Myanmar and the Himalayas.

Varietatum clavis diagnostica

1. Sepala lanceolato-oblonga vel anguste oblonga, 0.9~1.5 cm longa.

2. Folia omnia ternata; cymae 3-multi-florae.
 3. Sepala extus glabra 5.1a. var. **siamensis**
 3. Sepala extus puberula 5.1b. var. **clarkei**
 2. Folia infera ternata, supera simplicia; cymae 1-florae; sepala extus puberula 5.1c. var. **monantha**
 1. Sepala lanceolato-linearia, 2.5 ~ 3 cm longa; folia ternata; cymae aliquot-florae 5.1d. var. **andersonii**

5.1a Var. **siamensis**

China. Yunnan: Zhenkang, C. W. Wang 72362 (PE); Lu-se, H. T. Tsai 56848 (KUN); Jingdong, M. K. Li 2644 (KUN, PE). **Xizang:** Medog, Sun Hang *et al.* 2895, 3294, 4126 (KUN).

Thailand. Dai-Angka, Garrett 648 (GH, K); Chiangmai, Bogner 385 (K).

Myanmar. Adung River, F. Kingdon Ward 9182 (BM); Ngawchang Valley, F. Kingdon Ward 106 (GH), 176 (BM); Shan States, Rock 2236 (GH).

India. Assam, Lohit Valley, F. Kingdon Ward 7908 (K), 19137 (BM, E); Lushai Hills, Parry 543 (K); Naga Hills, F. Kingdon Ward 7735 (K), 19070 (BM).

Bhutan. Chukka, Grierson & Long 3194 (K).

Sikkim. Darjeeling, Cave s. n. (E, GH).

Nepal. Charikot, Banerji 1379 (GH).

Distribution: China (Yunnan, S Xizang), N Thailand, N Myanmar, NE India, Sikkim, E Nepal.

5.1b 毛萼锡金铁线莲 变种

Var. **clarkei** (Kuntze) W. T. Wang, comb. nov. — *C. acuminata* DC. var. **clarkei** Kuntze in Verh. Bot. Ver. Brand. 26: 167. 1885; Gupta in Bull. Nat. Bot. Gard. Lucknow 97: pl. 48. 1964. — *C. acuminata* DC. ssp. **sikkimensis** var. **clarkei** (Kuntze) Brühl in Ann. Bot. Gard. Calc. 5(2): 75, pl. 104, fig. 6. 1896; Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 17. 1966; M. Johnson, Klematis 293. 1997. — *C. sikkimensis* var. **clarkei** (Kuntze) W. T. Wang in Acta Phytotax. Sin. 36(2): 168. 1998. TYPE: Sikkim. Darjeeling, 1870-11-11, Clarke 13651A (lectotype, BM!).

China. Yunnan: Gongshan, K. M. Feng 24394 (KUN). **Xizang:** Nyingchi, W. L. Zheng 1044 (NAS).

Thailand. Doi Intanon, Phengklai & Smitinand 6078 (K), Maxwell 89-1616 (GH).

Myanmar. Tahawndam, F. Kingdon Ward 10162 (BM).

Distribution: China (NW Yunnan, SE Xizang), N Thailand, N Myanmar, Sikkim.

5.1c 单花锡金铁线莲 变种

Var. **monantha** (W. T. Wang & L. Q. Li) W. T. Wang & L. Q. Li, comb. nov. — *C. sikkimensis* (Hook. f. & Thoms.) Drumm. ex Burkill var. **monantha** W. T. Wang & L. Q. Li in Acta Phytotax. Sin. 37(3): 218. 1999. TYPE: China. Yunnan, Weixi, 1940-11, K. M. Feng 8694 (holotype, PE!).

Distribution: China (NW Yunnan). Only known from the type specimen.

5.1d Var. andersonii (Brühl) W. T. Wang, comb. nov. — *C. acuminata* DC. ssp. **sikkimensis** var. **andersonii** Brühl in Ann. Bot. Gard. Calc. 5(2): 75. pl. 104. fig. 7. 1896. — *C. acuminata* var. **andersonii** Brühl ex Hand.-Mazz. in Acta Hort. Gotob. 13: 194. 1939; Gupta in Bull. Nat. Bot. Gard. Lucknow 97: pl. 47. 1964. — *C. acuminata* ssp. **andersonii**

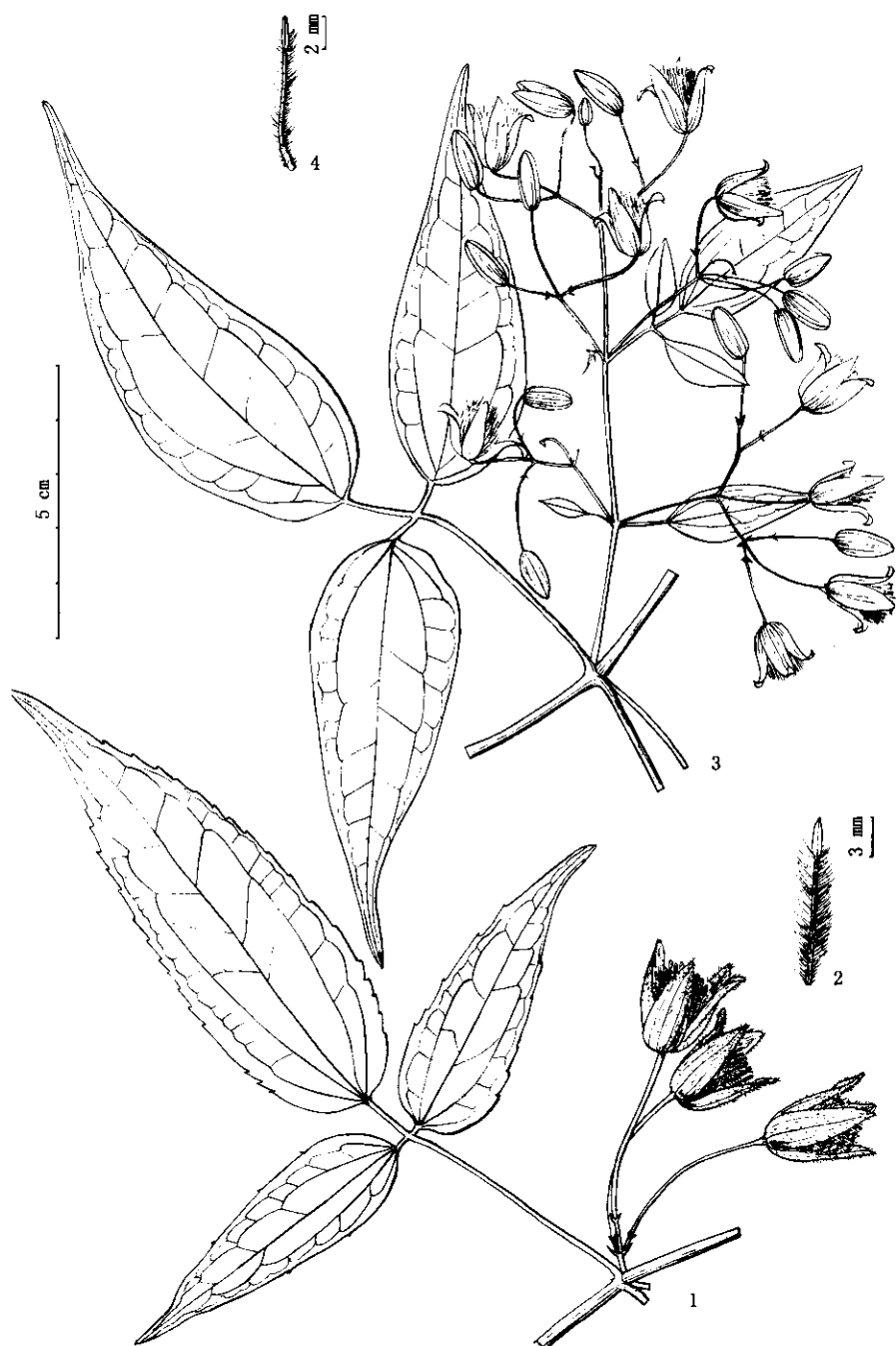


Fig. 3 1~2. *Clematis acuminata* var. *longisepala* 1. Flowering branch; 2. Stamen. (from F. Kingdon Ward 198). 3~4. *C. acuminata* var. *pleiantha* 3. Flowering branch; 4. Stamen. (from F. Kingdon Ward 176) (孙英宝 绘)

(Brühl) Kapoor in Bull. Nat. Bot. Gard. Lucknow 124; 10. 1966; M. Johnson, *Klematis* 292. 1997. TYPE: N Myanmar, Anderson s. n. (holotype, not seen).

Distribution: N Myanmar.

5.2a *Clematis acuminata* DC. var. *longisepala* W. T. Wang, var. nov. Fig. 3: 1~2

A var. *acuminata* differt foliolis subcoriaceis utrinque conspicue reticulatis, cymis 3-floris umbelliformibus, pedunculis abbreviatis 2~3 mm longis, sepalis majoribus 1.8~1.9 cm longis.

Myanmar: Kang-fang, alt. 2000 m, in pine-oak country, along streams, 1939-01-06, F. Kingdon Ward 198 (holotype, GH! here designated).

Var. *acuminata*, occurring in the Himalayas, differs from this new variety in its thinner papery, indistinctly reticulate leaflets, not umbelliform cymes, longer peduncles 0.6~3.8 cm long, and smaller sepals 1.4~1.6 cm long.

5.2b *Clematis acuminata* DC. var. *pleiantha* W. T. Wang, var. nov. Fig. 3: 3~4

A var. *acuminata* differt foliolis subcoriaceis late lanceolatis utrinque conspicue reticulatis glabris, cymis axillaribus ca. 24-floris paniculiformibus, pedicellis glabris, sepalis minoribus 1.1~1.3 cm longis extus glabris.

Myanmar: Htawgaw, Ngawchang Valley, alt. 1300 m, open places in forested gullies, 1938-12-30, F. Kingdon Ward 176 (holotype, GH! here designated).

Var. *acuminata* differs from this new variety in its thinner papery, lanceolate, indistinctly reticulate, sparsely puberulous leaflets, 1~4-flowered axillary cymes, and larger sepals, which are 1.4~1.6 cm long and puberulous outside.

5.3 合柄铁线莲

***Clematis connata* DC. Prodr. 1: 4. 1824; Hook. f. & Thoms. Fl. Ind. 11. 1855; et in Hook. f. Fl. Brit. Ind. 1: 6. 1872; Finet & Gagnep. in Bull. Soc. Bot. France 50: 547. 1903; Hand.-Mazz. in Acta Hort. Gotob. 13: 192. 1939, p. p. excl. syn. *C. buchananiana* var. *trullifera* Franch. et *C. trullifera* Finet & Gagnep.; Rehd. Man. Cult. Trees & Shr., ed 2. 210. 1940; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 26. 1963; Kapoor in l. c. 124: 26. 1966; Hara in Hara & Williams, Enum. Flow. Pl. Nepal 2: 14. 1979, p. p. excl. syn. *C. nutans* Royle var. *pseudoconnata* Kuntze; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 109, fig. 8. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 108. 1984; Grierson & Long, Fl. Bhutan 1(2): 290. 1984, excl. syn. *C. trullifera* (Franch.) Finet & Gagnep.; M. Y. Fang in Fl. Xizang. 2: 87. 1985; Riedl & Nasir in Fl. Pakist. 193: 91, fig. 17, D, E. 1991; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 521. 1993; Rau in Sharma *et al.* Fl. Ind. 1: 61. 1993; M. Johnson, Klematis 297. 1997. — *C. buchananiana* DC. ssp. *connata* (DC.) Kuntze in Verh. Bot. Ver. Brand. 26: 130. 1885. TYPE: Nepal, Wallich s. n. (holotype, BM!).**

C. venosa Royle, Ill. Bot. Himal. Mount. 51. 1839. TYPE: Mountains between Lahore and Kashmir, Royle s. n. (isotype, K!).

C. amplexicaulis Edgew. in Trans. Linn. Soc. London 20: 24. 1851. TYPE: Himalaya, Dhanaulti, 1844, Edgeworth s. n. (isotype, K!).

C. gracilis Edgew. l. c. TYPE: Himalaya, Shioli, 1844, Edgeworth s. n. (isotype, K!).

C. velutina Edgew. l. c. 25. TYPE: India. Simla, 1844, Edgeworth s. n. (isotype, K!).

C. trullifera auct. non (Franch.) Finet & Gagnep.: Iconogr. Corm. Sin. 1: 738, fig. 1476. 1972.

C. connata consists of 5 varieties, distributed in Southwest China and the Himalayas.

Varietatum clavis diagnostica

1. Folia pinnata.

2. Antherae glabrae; foliola subtus subglabra vel tantum ad nervos sparse puberula.

3. Foliola late ovata, 4 ~ 12 cm longa, basi cordata 5.3a. var. **connata**

3. Foliola lanceolata, 5.5 ~ 5.8 cm longa, basi rotundata vel subcordata 5.3b. var. **lanceolata**

2. Antherae dorso puberulae.

4. Foliola late vel anguste ovata, basi cordata, subcordata vel rotundata, subtus tantum ad nervos puberula ceterum glabra; sepala rubello-brunnea 5.3c. var. **confusa**

4. Foliola late ovata, basi cordata, subtus plus minusve dense sericeo-puberula; sepala flavida 5.3d. var. **trullifera**

1. Folia bipinnata; foliola anguste ovata vel lanceolata, 2.6 ~ 7.5 cm longa, basi late cuneata, subtus tantum ad nervos sparse puberula, ceterum glabra 5.3e. var. **pseudonnata**

5.3a Var. **connata**

China. **Sichuan:** Baoxing, K. L. Chü 3835 (PE); Xiangcheng, T. T. Yü 13413 (PE); Kangding, H. Smith 13329 (GH, UPS). **Yunnan:** Gongshan, Monbeig s. n. (GH); Dêqên, T. T. Yü 10376 (PE); Lijiang, K. M. Feng 21336 (PE). **Xizang:** Bomi, Qinghai-Xizang Exped. 73-1463 (PE); Nyalam, Med. Pl. Exped. 82-1147 (PE).

Bhutan. Runthang, Cooper 2126a (BM); Gamri Chu, Ludlow & Sherriff 1100 (BM).

Sikkim. Lachen, J. D. Hooker s. n. (GH, K).

India. Simla, Thomson s. n. (GH, K); Kumaon, Strachey & Winterbottom 6 (GH, K); Punjab, Sprague 147, Stewart 4036 (K).

Nepal. Batasuy-Halhala, Hara 6304330 (GH); Kapthad, Taketa 1134 (GH); Mugu, Polunin 5296 (GH, US).

Kashmir: Falconer 11 (K, P, S), Jacquemont 775 (P).

Pakistan. Kalm, Rodin 5663 (K).

Distribution: China (W Sichuan, NW Yunnan, S Xizang), Bhutan, Sikkim, N India, Nepal, Kashmir, N Pakistan.

5.3b Var. lanceolata Biswas in Ind. J. Forest. 81(1): 61, t. 1. 1985; Rau in Sharma *et al.* Fl. Ind. 1: 63. 1993; M. Johnson, Klematis 299. 1997. TYPE: India. Tehri Garhwal, Kandia, 1954-09-30, Sahni 21545 (holotype, DD, not seen).

Distribution: India (Tehri Garhwal regions of Uttar Pradesh).

5.3c Var. confusa (Grey-Wilson) W. T. Wang, st. et comb. nov. — *C. confusa* Grey-Wilson in Kew Mag. 8(4): t. 181. 1991. TYPE: Bhutan. Paro, 2500 ~ 2700 m, 1985-10, Rushforth 765 (holotype, K!), 776 (paratype, K!). E Nepal. Amjilassa to Kyapia, Keke 287 (paratype, K!); Surke Danda, Keke 1148 (paratype, K!).

Distribution: Bhutan, E Nepal.

5.3d 杯柄铁线莲 变种

Var. **trullifera** (Franch.) W. T. Wang in Acta Phytotax. Sin. 36 (2): 170. 1998. — *C. buechananiana* DC. var. *trullifera* Franch. Pl. Delav. 3. 1889. — *C. trullifera* (Franch.) Finet & Gagnep. in Bull. Soc. Bot. France 50: 547. 1903; Rehd. & Wils. in Sarg. Pl. Wils. 1: 324. 1913; Hand.-Mazz. Symb. Sin. 7: 317. 1929; Rehd. in J. Am. Arb. 17: 318. 1936; Tamura in Acta Phytotax. Geobot. 19: 73. 1962 et 23: 104. 1968; M. Y. Fang in Fl. Reip.

Pop. Sin. 28: 110, pl. 30, fig. 6. 1980; Y. K. Li in Fl. Guizhou. 3: 52. 1986; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 521. 1993; M. Johnson, Klematis 319. 1997. TYPE: China. Yunnan, Tapintze, Talongtan, 1888-09-17, Delavay 3264 (holotype, P!).

C. coriigera Lév. in Repert. Sp. Nov. 12: 281. 1913. TYPE: China. Yunnan, Tong-tchouan, 2500 m, 1912-09, Maire s. n. (holotype, E!).

C. connata var. *sublanata* W. T. Wang in Acta Phytotax. Sin. 6(4): 373. 1957; C. Y. Wu, Ind. Fl. Yunnan. 1: 108. 1984. TYPE: China. Yunnan, Binchuan, T. N. Liou 22236 (holotype, PE!).

C. connata auct. non DC.: Lauener & Green in Not. R. Bot. Gard. Edinb. 23(4): 581. 1961.

China. Sichuan: Luding, K. C. Kuan, W. T. Wang *et al.* 1712 (PE). **Yunnan:** Gongsan, T. T. Yü 19894 (GH, PE); Binchuan, T. N. Liou 22236 (PE), Ducloux 6721 (P); Tapintze, Talongtan, Delavay 3572 (K, P); Fumin, B. Y. Qiu 596053 (PE); Yunnan-sen, Maire 1178 (K); Kiao-kia, Ducloux 5862 (K).

Distribution: China (W Guizhou, W Sichuan, N Yunnan).

5.3e 川藏铁线莲 变种

Var. *pseudocconnata* (Kuntze) W. T. Wang, comb. nov. — *C. nutans* Royle var. *pseudocconnata* Kuntze in Verh. Bot. Ver. Brand. 26: 130. 1885. TYPE: Nepal. Wallich s. n. (holotype, BM!).

C. connata var. *bipinnata* M. Y. Fang in Fl. Reip. Pop. Sin. 28: 354, pl. 30, fig. 1 ~ 5. 1980; et in Fl. Xizang. 2: 87. 1985; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 521. 1993; M. Johnson, Klematis 298. 1997, syn. nov. TYPE: China. Sichuan, Mianning, 2900 m, 1939-09-21, W. P. Fang 5048 (holotype, PE!); Muli, T. T. Yü 14149 (paratype, PE!). Xizang: Nyalam, 2900 m, Xizang Exped. 73-1147 (paratype, PE!).

Distribution: China (SW Sichuan, S Xizang), Nepal.

5.4 宾川铁线莲

Clematis pinchuanensis W. T. Wang & M. Y. Fang in Fl. Reip. Pop. Sin. 28: 116. 354, pl. 32, fig. 4 ~ 6. 1980; W. T. Wang in Acta Phytotax. Sin. 31(3): 222. 1993; M. Johnson, Klematis 310. 1997, p. p. excl. syn. TYPE: China. Yunnan, Binchuan, 1946-12-25, T. N. Liou 22249 (holotype, IBSC!; isotype, PE!).

5.4a Var. *pinchuanensis*

Folia simplicia.

Distribution: China (Yunnan: Binchuan). Only known from the type specimens.

5.4b 三出宾川铁线莲 变种

Var. *tomentosa* (Finet & Gagnep.) W. T. Wang, comb. nov. — *C. ranunculoides* Franch. var. *tomentosa* Finet & Gagnep. in Bull. Soc. Bot. France 50: 544. 1903. TYPE: China. Yunnan: Mao-Kou-tchang, Ta-pin-tze, pres Tali, 1884-11-18, Delavay s. n. (holotype, P!).

Folia ternata.

China. Yunnan: Mt. Tsangshan, Tali, 2400 m, 1914-08, Schneider 2940 (K).

Distribution: China (Yunnan: Dali, Heqing).

C. pinchuanensis is closely related to *C. ranunculoides* Franch. with long scandent puberulous stems, differing from the latter in its erect, robust, velutinous stems.

西南铁线莲亚组

Subsect. 2. **Bebaenantha** (Edgew.) W. T. Wang, st. nov. — Sect. *Bebaenantha* Edgew. in Trans. Linn. Soc. London 20: 25. 1851; Tamura in Sci. Rep. Osaka Univ. 16(2): 32. 1967; in Acta Phytotax. Geobot. 38: 39. 1987; et in Heipko, Nat. Pflanzenfam., Zwei. Auf., 17a(4): 373. 1995; M. Johnson, Klematis 359. 1997. TYPE: *C. barbellata* Edgew.

Sect. *Paratragene* Tamura in Sci. Rep. Osaka Univ. 4: 49. 1955; et in Acta Phytotax. Geobot. 16(3): 80. 1956. TYPE: *C. japonica* Thunb.

This subsection is closely related to subsect. *Connatae*, differing from the latter only in its flowers together with leaves arising from an axillary bud of old branch. While in subsect. *Connatae*, the flowers being either in cymes or panicles or solitary arise from the leaf axils of homotinous branch.

It consists of 6 species distributed in Japan (*C. japonica* Thunb., *C. obvallata* (Ohwi) Tamura, *C. tosaensis* Makino), Southwest China (*C. pseudopogonandra* Finet & Gagnep.), and the Himalayas (*C. barbellata* Edgew., *C. bracteolata* Tamura).

5.5 Clematis barbellata Edgew. in Trans. Linn. Soc. Lond. 20: 25. 1851; Hook. in Curtis, Bot. Mag. 80: t. 4794. 1854; Hook. f. & Thoms. Fl. Ind. 5. 1855; et in Hook. f. Fl. Brit. Ind. 1: 3. 1872; Tamura in Acta Phytotax. Geobot. 16(3): 80. 1956; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 138. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 5. 1961; Kapoor in l. c. 78: 12. 1962; Hara in Hara & Williams, Enum. Flow. Pl. Nepal 2: 14. 1979, p. p. excl. syn. *C. barbellata* var. *obtusata* Kitamura & Tamura; Riedl & Nasir in Fl. Pakistan 193: 95. 1991, p. p. excl. syn.; Rau in Sharma *et al.* Fl. Ind. 1: 59. 1993, p. p. excl. syn.; M. Johnson, Klematis 361. 1997. TYPE: Himalaya. Choor, 2743 m, 1844-06, Edgeworth 9 (holotype, LIV?, not seen; isotype, K!). — *C. nepalensis* auct. non DC.: Royle, Ill. Bot. Himal. Mount. 51. 1834. — *C. japonica* auct. non Thunb; Kuntze in Verh. Bot. Ver. Brand. 26: 159. 1885, p. p.

This species consists of two varieties occurring in Southwest China (S Xizang) and western Himalaya.

5.5a Var. *barbellata*

Sepala late lanceolata, apice attenuata.

Nepal. Chankheli, Polunin *et al.* 4349 (S); Gurjakani, Stainton *et al.* 3045 (GH, UPS).

India. Kumaon, Strachey & Winterbottom 5 (GH, K); Garhwal, Osmaston 384, 1085 (GH); Simla, Gamble 1551c, 4371A (K), Baksh 4321, 4322 (K), Parker 2839 (GH); Siwalik & Jaunsar divisions, Bhatuagae 3 (US); Chamba, Parker s. n. (GH, K).

Kashmir. Haruvian Stream, Gamble s. n. (K); Mt. Chur, Baksh 1133c, 1136 (K).

Distribution: Nepal, N India, Kashmir, N Pakistan.

5.5b 吉隆铁线莲 变种

Var. *obtusata* Kitamura & Tamura in Kihara, Fauna & Fl. Nepal 1: 127. 1955; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 138. 1959; M. Johnson, Klematis 362. 1997. TYPE: Nepal. Pisang, 3300 m, 1953-05-24, Nakao 195 (holotype, KYO!)

C. kilungensis W. T. Wang & M. Y. Fang in Fl. Reip. Pop. Sin. 28: 128, 355. 1980; M. Y. Fang in Fl. Xizang. 2: 87, fig. 24: 4 ~ 5. 1985; M. Johnson, Klematis 304. 1977, syn. nov. TYPE: China. Xizang, Gyirong, 3700 m, 1972-07-17, Xizang Med. Pl. Exped. 332 (holotype, PE!)

Sepala late oblonga vel late oblongo-ovata, apice rotundato-obtusa vel leviter obtusa.

Distribution: China (S Xizang) and Nepal.

6 长瓣铁线莲组 Sect. *Atragene* (L.) DC.

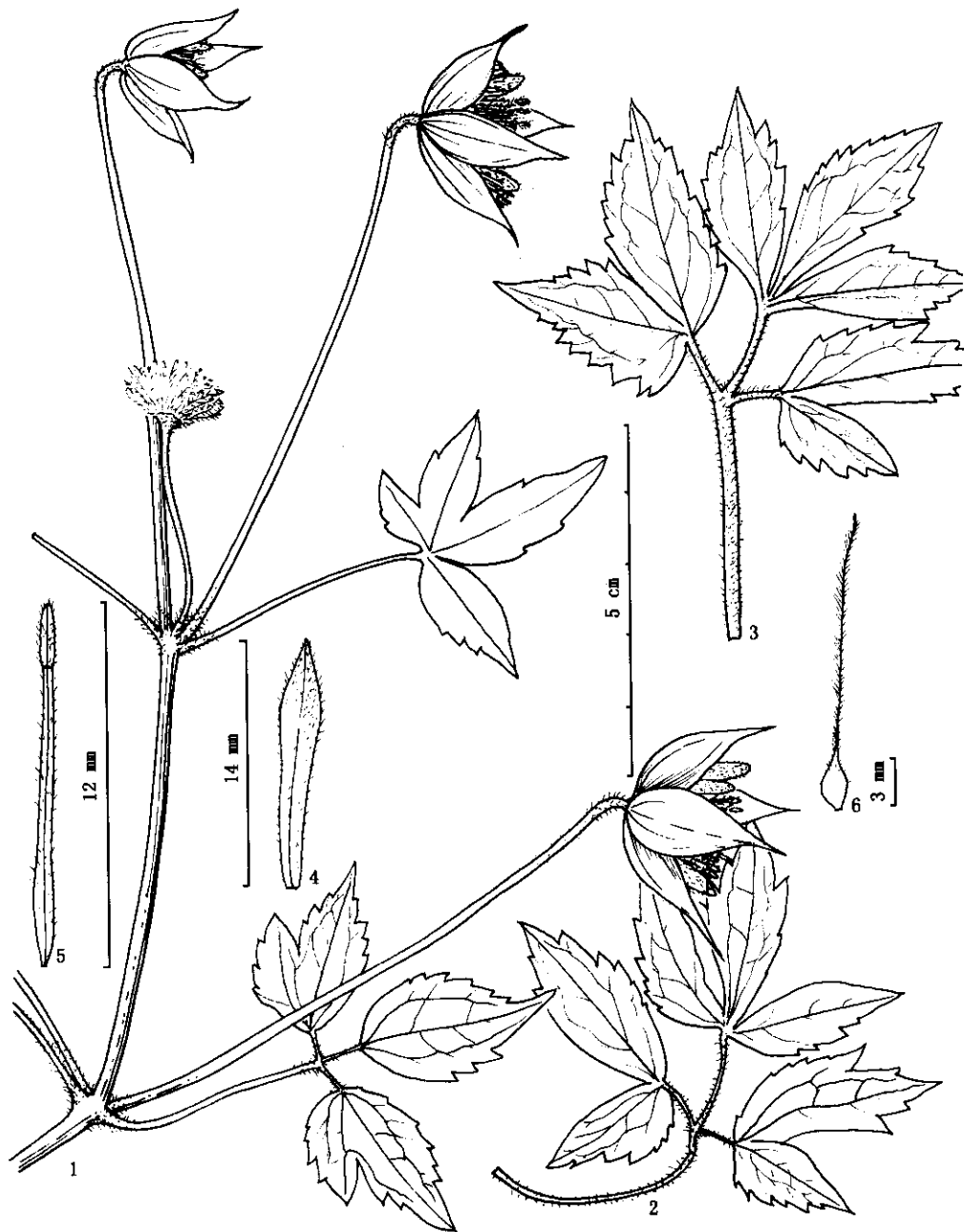


Fig. 4 *Clematis kogenensis* 1. Upper part of a flowering branch; 2~3. Leaves; 4. Staminode; 5. Stamen; 6. Achene. (from T. Nakai s. n.) (孙英宝 绘)

6.1 *Clematis kogenensis* W. T. Wang, sp. nov. — *C. koreana* Kom. var. *bitermata* Nakai

in J. Jap. Bot. 15: 528. 1939, non *C. biternata* DC., 1818; M. Johnson, Klematis 210. 1997. TYPE: Korea. Prov. Kogen, in summa montis Zyaseiho montium Setugakusan, alt. 1750 m, 1936-07-20, T. Nakai s. n. (fl., lectotype, designated here, TI!); Prov. Kauhoku, 1918-07-23, T. Nakai 7006 (fr., syntype, TI, not seen). Fig. 4

Leviter affinis *C. koreanae* Kom., quae foliis omnibus ternatis, sepalis luteolis apice acutiusculis haud cuspidatis, staminodiis majoribus 1.5 ~ 1.8 cm longis superne spathulato-dilatatis apice rotundatis facile distinguitur.

Liana lignosa. Rami 4-angulati, adpresse pubescentes. Folia ternata vel pinnata, 5-foliolata; foliola subcoriacea, terminalia vel lateralibus supera anguste ovata, anguste obovato-rhombica vel subpentagona, 2 ~ 3 cm longa, 1 ~ 2.2 cm lata, apice breviter acuminata, basi rotundata, margine dentata, indivisa vel 3-lobata vel 3-secta, supra sparse adpresse puberula, subtus ad nervos leviter dense pubescentia, lateralibus infera majora, oblique flabellata, basi truncato-rotundata, vel subtruncata, 3 ~ 3.4 cm longa, 2.5 ~ 3.5 cm lata, inaequaliter 2-partita vel 2-lobata, lobis oblique ovatis vel anguste obovatis; petioli 3 ~ 3.5 cm longi. Flores solitarii, axillares vel in cymas terminales 3-floras dispositi, bracteis oppositis foliiformibus petiolatis ternatis vel simplicibus 3-partitis, late campanulati, 2 ~ 3 cm diametro; pedicelli graciles, 2.5 ~ 8 cm longi, pubescentes. Sepala 4, purpurea, anguste ovata vel late lanceolata, 1.6 ~ 2 cm longa, 4 ~ 8 mm lata, apice cuspidata vel caudato-cuspidata, intus superne sparse puberula, extus trinervia, superne ad nervos sparse puberula, margine velutina. Staminodia oblanceolato-linearia, 1 ~ 1.3 cm longa, 2 mm lata, apice attenuata, acutiuscula, puberula. Stamina 7 ~ 10 mm longa; filamenta lanceolato-linearia, puberula; antherae lineares, 1.5 ~ 2 mm longae, dorso dense puberulae. Ovaria pubescentia; styli ca. 6 mm longi, dense villosi. Achenia compressa, suborbicularia, ca. 3 mm longa et lata, pubescentia; styli persistentes ca. 1.6 cm longi, plumosi.

If the varietal epithet of the basionym is used as the specific epithet, when *C. koreana* Kom. var. *biternata* Nakai is raised to species rank, then a later homonym of *C. biternata* DC. (1818) will be formed. For avoiding the formation of the later homonym, a new species name should be given.

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